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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

November 13, 1998

Ms. Magalie R. Salas, Secretary
Federal Communications Commission
1919 M Street, NW, Room 222
Washington, D.C. 20554

Re: **Ex Parte – TTY and Access to Telecommunications**
CC Docket No. 94-102

Dear Ms. Salas:

On Friday, November 13, 1998, Mr. Robert F. Roche, Assistant Vice President for Policy and Research, for the Cellular Telecommunications Industry Association (CTIA), sent the attached letter and supporting material to Mr. Paul Misener, Chief of Staff and Senior Legal Advisor to Commissioner Harold Furchtgott-Roth.

Pursuant to Section 1.1206 of the Commission's Rules, an original and one copy of this letter and the attachment are being filed with your office. If you have any questions concerning this submission, please contact the undersigned.

Sincerely,

Robert F. Roche
Assistant Vice President
for Policy and Research

Attachments

No. of Copies rec'd 011
List ABCDE





CTIA

Cellular Telecommunications Industry Association

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Mr. Paul Misener
Chief of Staff & Senior Legal Advisor
Office of Commissioner Harold Furchtgott-Roth
Federal Communications Commission
1919 M Street, N.W. - Room 802
Washington, D.C. 20554

RE: TTY and Access to Telecommunications - CC Docket No. 94-102

Dear Mr. Misener:

Per your request, CTIA's Staff Economist, Pramesh Jobanputra, and I have examined the costs associated with implementation of the IWF data-based solution. In further discussions with manufacturers and wireless carriers a range of estimates have been presented as to the approximate cost for developing and implementing both short-term and long-term TTY solutions. These costs will vary, of course, depending on the technology selected, including the type of digital interface. The numbers presented in the attachment are based on three specific assumptions—the number of potential users, the estimated cost of software & hardware upgrades for switches, and the users' choice between three types of communications solutions.

The possible demand for TTY-compatible wireless devices is based upon the total U.S. population statistics for deaf or hearing impaired persons provided by the following two groups: Gallaudet University (in the form of a study derived from National Center of Health Statistics 1994 data) and the National Association of the Deaf. The estimated number of potential users, according to the two groups, ranges from 23.7 million to 28 million.

The manufacturers have indicated an estimated baseline cost of about \$100,000 to \$200,000 per switch. These costs assume that the following factors do not increase substantially: (1) the cost of development for TTY interfaces for various technologies, and (2) the cost of modifications to the infrastructure. The estimates omit the cost of labor associated with the modifications. Based on the number of wireless switches currently deployed, the estimated total cost for switches would range from a low of \$95 million to \$190 million for the industry.

The total cost estimate for customer equipment is based on the three possible solutions currently under review—the integrated phone/terminal unit, the notebook/palmtop computer and the current TTY and newer generation of TTY

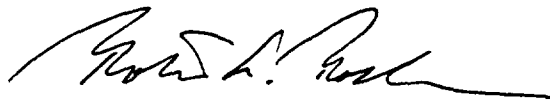


November 13, 1998

devices. The cost estimates for all three of the options are dependent on the functionality and number of units required to be produced. The figures provided are based on manufacturer list prices to the carrier or customer. The unit costs for the devices range from \$300 to \$1000 for the three different options. Additionally, other associated costs may be required to make each type of unit TTY compatible, e.g., serial cable or smart cable (includes a Baudot-ASCII converter).

If you have any questions, please do not hesitate to contact me at 202 736-3255.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert F. Roche", with a long horizontal flourish extending to the right.

Robert F. Roche
Assistant Vice President
for Policy and Research

COST ANALYSIS

<u>Number of Switches</u>	950	<u>Switch Cost Low end</u>	<u>Switch Cost High end</u>
		\$ 100,000	\$ 200,000
		Total Cost Low end	Total Cost High end
		\$ 95,000,000	\$ 190,000,000

Number of Potential Subscribers	23,700,000	28,000,000
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3 Possible options

	Cost Low end	Cost High end
Nokia Phone/Terminal		
For 23,700,000	\$ 300.00	N/A
Total Cost	\$ 7,110,000,000	\$ -
 For 28,000,000	\$ 300.00	N/A
Total Cost	\$ 8,400,000,000	
	Cost Low end	Cost High end
Notebook/Palmtop	\$ 300.00	\$ 1,000.00
For 23,700,000	\$ 7,110,000,000	\$ 23,700,000,000
 For 28,000,000	\$ 8,400,000,000	\$ 28,000,000,000
 Serial Cable Addition (Req)	\$ 5	
For 23,700,000	\$ 118,500,000	
 For 28,000,000	\$ 140,000,000	
 TTY Option	\$ 300.00	
For 23,700,000	\$ 7,110,000,000	
 For 28,000,000	\$ 8,400,000,000	
 Smart Cable Addition	Cost Low end	Cost High end
	\$ 100.00	\$ 150.00
For 23,700,000	\$ 2,370,000,000	\$ 3,555,000,000
 For 28,000,000	\$ 2,800,000,000	\$ 4,200,000,000

Total Cost Analysis

23.7 Million Subscribers

23.7 Million Subscribers

Nokia**Low Cost End****High Cost end**

Switch

\$ 95,000,000

\$ 190,000,000

Phone/Terminal

\$ 7,110,000,000

\$ 7,110,000,000

Total Cost**\$ 7,205,000,000****\$ 7,300,000,000****Low Cost End****High Cost end****Notebook/Palmtop**

Switch

\$ 95,000,000

\$ 190,000,000

Notebook/Palmtop

\$ 7,110,000,000

\$ 23,700,000,000

Serial Cable (Req)

\$ 118,500,000

\$ 118,500,000

Total Cost**\$ 7,323,500,000****\$ 24,008,500,000****Low Cost End****High Cost end****TTY Option**

Switch

\$ 95,000,000

\$ 190,000,000

TTY Unit

\$ 7,110,000,000

\$ 7,110,000,000

Smart Cable

\$ 2,370,000,000

\$ 3,555,000,000

Total Cost**\$ 9,575,000,000****\$ 10,855,000,000**

	28 Million Subscribers	28 Million Subscribers
<u>Nokia</u>	<u>Low Cost End</u>	<u>High Cost end</u>
Switch	\$ 95,000,000	\$ 190,000,000
Phone/Terminal	\$ 8,400,000,000	\$ 8,400,000,000
Total Cost	\$ 8,495,000,000	\$ 8,590,000,000

	<u>Low Cost End</u>	<u>High Cost end</u>
<u>Notebook/Palmtop</u>		
Switch	\$ 95,000,000	\$ 190,000,000
Notebook/Palmtop	\$ 8,400,000,000	\$ 28,000,000,000
Serial Cable (Req)	\$ 140,000,000	\$ 140,000,000
Total Cost	\$ 8,635,000,000	\$ 28,330,000,000

	<u>Low Cost End</u>	<u>High Cost end</u>
<u>TTY Option</u>		
Switch	\$ 95,000,000	\$ 190,000,000
TTY Unit	\$ 8,400,000,000	\$ 8,400,000,000
Smart Cable	\$ 2,800,000,000	\$ 4,200,000,000
	\$ 11,295,000,000	\$ 12,790,000,000

Cell: A11

Comment: CTIA:

According to Gallaudet University Study based on the National Center of Health Statistics 1994 figure the figure is 20 Million or 8.6 % of population. Using the 8.6% and extrapolating for current US population of 275 Million. Current Deaf population from National Association of the Deaf is 28 million.

Cell: A47

Comment: CTIA:

Vast Majority of TTY devices manufactured within the last 10 years have an RJ-11 Jack. So long as this is available, no other devices would be required to retrofit older devices.

Cell: A48

Comment: CTIA:

Development Costs cannot be determined at the present time.

CTIA

TTY Wireless Data Implementation Possibilities

